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XV. *Observations on the Language of Botany. By the Rev. Thomas Martyn, B. D. F. R. S. Professor of Botany in the University of Cambridge, and Fellow of the Linnean Society. In a Letter addressed to the President.*

*Read October 6, 1789.*

S I R,

I HAVE little doubt of your agreeing with me in opinion, that nothing has contributed more to the rapid progress which the science of Botany has made within the last thirty or forty years, than the excellent language which Linnæus invented, and which has been by common consent adopted, not only by those who follow the systematic arrangement of the illustrious Swede, but by all who study Botany as a science. Without pretending to any peculiar foresight, we may venture to affirm, that the Linnean language will continue to be in use, even though his system should in after ages be neglected; and that it will be received into every country where the science of Botany is studied, with certain modifications adapting it respectively to each vernacular tongue.

So long as Botany was confined to the learned few, there was no difficulty in using the terms of the Linnean language, exactly as the author had delivered it: but now that it is become a general pursuit, not only of the scholar, but of such as have not had what is called a learned education; and since the fair sex have



adopted it as a favourite amusement; it is become necessary to have a language that shall be suitable to every rank and condition, a language that may be incorporated into the general fund, and carry with it the proper marks of the mother tongue into which it is to be received.

In order to attain this desirable end, I beg leave, Sir, to submit to your consideration, and to that of the society over which you preside, these two fundamental principles: First, that we should adhere as closely as possible to the Linnean language itself: and secondly, that we should adapt the terminations, plurals, compounds and derivatives, to the structure and genius of our sterling English.

That we ought to adopt the Linnean terms themselves, is sufficiently apparent from the great advantage resulting from the use of one universal language. If we change or translate these terms, we lose all this advantage, and become unintelligible to botanists of every other nation, without any benefit gained on the other hand: for these new terms will be equally difficult even to the English student; and will require as much explanation as the Latin or Greek, many of which have prescription and possession to plead in their defence. To load the science and our English tongue with a useless addition of new words, is certainly an evil to be avoided.

Thus, for instance, in the parts of fructification, if we adopt the terms *empalement*, *blossom*, *chive*, *thread*, *tip*, *pointal*, *seed-bud*, *shaft*, *summit*, they require explanation, in their appropriate sense, as much as *calyx*, *corolla*, *stamen*, *filament*, *anthera*, *pistillum* or *pistil*, *germen* or *germ*, *style* and *stigma*, which are already familiar to the ears of all who have studied the science of Botany, even though they have little or no acquaintance with the learned languages. For the same reasons *legume* is to be preferred to *shell* or *cod*, *siliqua* or *silique* to *pod*, *silicle* to *pouch*, *glume* to *husk* or *chaff*, *culm* to *straw*, *digitate* to *fingered*, *ovate* to *egged*, *pinnatifid* to *feather-cleft*.

Some



Some few English terms, it must be owned, were used by the learned Grew; such as *empalement*, *chive*, *semet* for *anther*, *pointell*, *ovary* for *germ*, and *knob* or *button* for *stigma*: but these never made their way into the world, or became of general use. It is not necessary therefore to discuss the comparative merits of these terms with the Linnean; since, after all, we must submit to the supreme law in these matters, general consent\*: and when a Greek or Latin term has been once sanctioned by use, there can be no doubt but that it ought to be preferred even to a term originally English, which is either little known, or is applied to another signification.

It seems therefore upon the whole to be a desirable object, that all who talk or write of Botany in English, should keep as close as possible to the Linnean language: nor does it seem liable to any material objection, if we proceed with discretion and propriety, without violating the rules of common sense or of grammar.

For instance, when there is a significant English term, which has been in long and general use, it ought to be preferred. Thus it would be absurd to put *semen* for *seed*, or *folium* for *leaf*: *cell* is preferable to *loculament*, *partition* to *dissipiment*, and perhaps *seed-vessel* to *pericarp*. Opinions will differ upon the extent to which this exception to the general principle should be carried: but the original terms of the science in our language are so few, that it may very well be confined within a small compass.

There are however cases, in which it seems advisable rather to invent a new English term, than to adopt the Linnean. Thus in the case of very long words, such as *campaniform*, *infundibuliform*, *hypocrateriform*, and other sesquipedalian terms, which give too great an air of pedantry to the language, it will perhaps be thought better by

\* —————“ Si volet usus,

“ Quem penes arbitrium est, et jus, et norma loquendi.”



most persons to use *bell-shaped*, *funnel-shaped*, and *salver-shaped*; or *bell-form*, *funnel-form*, and *salver-form*; our English tongue admitting compounds with great success and facility: especially since these terms convey immediately to the English botanist a familiar idea of the several forms of the corolla, which they are intended to express.

When words also have already an appropriate sense in English, it seems better to translate them than to use the originals themselves. Thus, although in Latin we say *caulis strictus* or *exasperatus*, and *folium exasperatum*; yet it has an absurd sound in English to talk of a *strict* or *exasperated* stalk, and of leaves being *exasperated*. On the contrary, it is still worse, although it has not so ridiculous a sound, to drop the original Latin term, in order to adopt an English one before appropriated to another sense, and therefore only tending to create confusion. What I mean may be exemplified in the terms *lanceolate* and *ferrate*, applied to leaves: these are become sufficiently familiar by use; but if not, the explanation must be referred to: whereas, if we use the words *lanced* and *sawed*, a novice might easily be misled; for having been accustomed to the ideas of a *lanced gum* and *sawed wood*, he will not readily apply the former to the shape of a lance's head; or the latter to the sharp notching round the edge of a leaf, resembling the teeth of a saw.

There are likewise some Latin words which do not perfectly assimilate to our language, and therefore are better translated. Such are *teres* and *amplexicaulis*. Now we cannot well say in English *tere* or *amplexicaul*; but the first may frequently be translated *round*: this however will sometimes create a confusion, and *columnar* gives the idea of *teres* most precisely; for when applied to a stem, or any of its subdivisions, it signifies, not a cylindrical, but a tapering form, like the shaft of a column. The second of these terms may be rendered, significantly enough, *embracing* or *stem-clasping*.

These



These and other exceptions, which will readily present themselves to any one who considers the subject, being admitted; the advantage of the science will be most effectually consulted by retaining the Linnean terms, whenever there is no cogent reason to the contrary. It is frequently even dangerous to substitute equivalent terms; or at least it requires the utmost caution, if we would avoid confusion. Thus, if we translate the two Linnean terms *deciduus* and *caducus* by the same English word *falling*, two distinct ideas are confounded\*: would it not therefore be better to use the two Latin terms, with an English termination, *deciduous* and *caducous*? *Plumosus* is rendered *feathery*; and *pinnatus*, *feathered*: but is not this confounding ideas totally distinct? and are not therefore the terms *plumous* or rather *plumose*, and *pinnated* or rather *pinnate*, to be preferred? *Dichotomus* may be translated *forked*: but this English term implying no more than one division into two parts, does by no means fully express the idea of a stem continually and regularly dividing in pairs from the bottom to the top. Surely then *dichotomous* † is preferable to *forked*.

But where shall we find English words to express all the variations of pubescence, which Linnæus has discriminated with so much nicety ‡? Some of them indeed may very well admit of trans-

\* *Caducus* signifies a more quick or sudden falling off than *deciduus*. The calyx of the Poppy dropping before the corolla is unfolded, is said to be *caducus*. In *Berberis*, and many plants of the class *Tetradynamia*, it falls off; but not till after the corolla is expanded: the calyx in this case is said to be *deciduus*.

† If the *jus et norma loquendi* would permit, I should be for rendering all Latin adjectives ending in *us*, by the English termination *ous*; and all such as end in *osus*, by the termination *ose*.

‡ As *scabrities*, *lana*, *lanugo*, *villus*, *tomentum*, *pili*, *setæ*, *strigæ*, *hami*, *stimuli*, *aculei*, *furcæ*, *spinæ*, &c. and the adjectives derived from these and others; as *lanatus*, *lanuginosus*, *villosus*, *tomentosus*, *pilosus*, *setaceus*, *strigosus*, *hamatus*, *aculeatus*, *furcatus*, *spinosus*, *scaber*, *hirtus*, *hirsutus*, *hispidus*, *exasperatus*, &c.

lation;



lation\*; but many will not. For instance, if we render *scaber* by the English word *rough*, how shall we distinguish it from *asper*, which has the same signification? We are therefore reduced to the necessity of rendering *asper*, rough†; and of retaining most of the other Latin terms with English terminations, as *scabrous*, *hirsute*, *hispid*, &c. unless we would wantonly load the science of Botany, and our English tongue, with terms newly invented or applied, which are not either more significant, or more easy to be understood, than those which we are already in possession of.

As to the second general principle, namely, that the terminations and plurals of our words, together with their compounds and derivatives, should be adapted to the structure and genius of the English language; it will not perhaps by many be thought of equal importance with the first. There is perhaps no language that is more irregular than ours, or that admits of more license in many respects.

This however is no reason why, in the formation of new terms, we should not follow such fundamental rules as we have, avoid irregularities as much as possible, and add no fresh barbarisms to those which already disgrace us. The well known Horatian rule ‡ must be our constant guide in the formation of our terminations and plurals; and analogy must be attended to in the structure of our compounds and derivatives. Thus *nectary* may be used for *nectarium*, *pistil* for *pistillum*, *style* for *stylus*, *pericarp* for *pericarpium*, *receptacle* for *receptaculum*, *capsule* for *capsula*, *glume* for *gluma*, *culm*

\* As *lana* wool, *pili* hairs, *setæ* bristles, *hami* hooks, *stimuli* stings, *aculei* prickles, *spinæ* thorns: *lanatus* may be rendered woolly, *pilosus* hairy, *setaceus* bristly, *hamatus* hooked, *aculeatus* prickly, *spinosus* thorny.

† If so, in order to preserve the analogy, *exasperatus* may be translated *roughened*.

‡ “Et nova factaque nuper habebunt verba fidem, si

“Græco fonte cadant, parcè detorta.——



for *culmus*, &c. Some of these words, as *nectarium* and *pericarpium*, are become so familiar to learned botanists, that they will perhaps hardly be persuaded to give up the Latin termination. The final in *a* may be admitted more readily; and *corolla* having use on its side, will doubtless be preferred by many to *corol*, which has not so melodious a sound. Naturalists talk familiarly of a butterfly's *antenna*; and *cupola*, which in the last century was considered as a stranger, is in this admitted to be a denizen. I must observe, however, that by changing the final *a* into *e*, some confusion will be avoided, which arises from not distinguishing the Latin feminine singular from the neuter plural; and by using *stipule* for *stipula*, we shall no longer hear of a leaf-stalk or petiole having two *stipula*.

But whatever allowance may be made in singular terminations, the plurals must certainly follow the analogy of the English tongue; and if we tolerate *corolla* and *anthera*, *nectarium* and *pericarpium*, we cannot possibly allow of *corollæ* and *antheræ*, *nectaria* and *pericarpia*; but we must use either *corollas* or *corols*, *antheras* or *anthers*, *nectariums* or *nectaries*, *pericarpiums* or *pericarps*, according as we preserve the original term entire, or anglicize it.

All derivatives and compounds ought to follow the analogy of the original words from which they are derived, or of which they are compounded. Thus from *corol* we regularly form *corollet*, as from *crown*, *coronet*: if we adopt the terms *prickle* and *thorn*, we must use the adjectives *prickly* and *thorny*, not *aculeate* and *spinose*: from *glume* we form *glumose*; from *ament*, *amentaceous*; from *awn*, *awned* and *awnless*; from *axil* or *axilla*, *axillary*; from *pinna*, *pinnate*, *bipinnate*, &c. from *calyx* are formed *calycle*, *calyced*, *calycine*; from *petal*, *anther*, *berry*, we make the compounds *five-petalled*, *anther-bearing*, *berry-bearing*, not *bacciferous*; from *cell*, *two-celled*; from *leaf*, *two-leaved*; from *seed*, *two-seeded*.

Without, however, entering too much into the minutenesses of



this subject, suffice it to remark, that when we admit terms of art or science to participate in the rights of citizens, they should put on our garb, and adopt our manners. If this rule had always been observed, our language would not have been deformed with innumerable barbarisms, which learned and unlearned ignorance have joined to introduce among us; and which nothing but the constant habit of speaking or hearing them, can ever reconcile to our ears\*.

It would be easy to add many more observations, but it is not my design to exhaust the subject. I have addressed these cursory remarks to you, Sir, as being at the head of a society, one of whose principal views is to promote English Botany; in hopes that some member of the society, who has more leisure than myself, may turn his thoughts to the subject, and handle it so fully, that all of us who are engaged in the same pursuit, may speak the same language.

I am,

Park Prospect, Westminster,  
October 5, 1789.

SIR, &c.

THO. MARTYN.

\* Such are *per-cent*, *per-annum*, *per-pound*, and *per-post*; *ipso facto*, *minutiæ*, *data*, *errata*, *in vacuo*, *vice versa*, *plus et minus*, *vis inertiae*, *in equilibrio*, *jet-d'eau*, *aqua fortis*, *aqua vitæ*, *ignis fatuus*, *cæteris paribus*; *equivoque*, *critique*, *je-ne-sçai-quoi*, *sçavoir-vivre*, *outré*, *et cetera*, *et cetera*, *et cetera*.—It should seem that the mercantile world, the learned world, and the fashionable world, had formed a conspiracy to debase our sterling English by ill-made terms, affectedly introduced without the least necessity.